

**REMARKS**

Claims 1 through 12 remain pending in this application. In response to the Office Action dated December 17, 2004, a new title has been provided and claims 4, 5, 8 and 9 have been amended. Care has been taken to avoid the insertion of new subject matter. Favorable reconsideration of the application as amended is respectfully solicited.

Objection has been made to the specification for the reason that lines are not double spaced. Submission of new application papers with lines double spaced has been required. Withdrawal of the objection and requirement is respectfully solicited. The specification text is in lines that are spaced 1 and 1/2, thus meeting the requirements of 37 CFR § 1.52(b)(2)(i). The objection, therefore, is traversed. With respect to the reading and entry of amendments, it is believed that the current specification text spacing would present no difficulty as current amendment practice dictates replacement of entire paragraphs in a separate paper.

Objection has been made to the title for not being sufficiently descriptive. In response, the title has been changed to: "Semiconductor device including a high-breakdown voltage MOS transistor." Applicant welcomes any suggestion for a title that the Examiner may find to be more appropriate.

Objection has been made to claim 4. The Office Action has pointed out that, at page 21, line 15, the word "portion" should be "region." Claim 4 has been amended accordingly.

Claims 5 and 8 through 12 have been rejected under the second paragraph of 35 U. S. C. § 112. Phrases in claims 5 and 8 have been identified that lack appropriate antecedents. Claims 5 and 8 have been amended to eliminate the indefinite antecedent references. The Office Action also has found the last paragraph of claim 9 to be confusing.

Claim 9 corresponds to the fifth to eighth embodiments and the structures thereof are shown in Figs. 13, 14, 15, 16 and 19. The fifth embodiment, for example, describes a structure of a semiconductor device having a MOS transistor T and a resistance element R connected in series. The MOS transistor T is formed including a gate electrode 7a (electrode portion), source/drain regions 4c, 4d (fourth impurity region, third impurity region) and source/drain field limiting layers 5c, 5d (fourth impurity region, second impurity region), and the resistance element R is formed including the field limiting layer 5d (second impurity region). See page 13, lines 17-18 and lines 28-30 of the specification.

Claim 9 has been amended to clarify the width relationship of the second impurity region components. The width of the field limiting layer 5d is made narrower as shown for example in Fig. 14 for the purpose of increasing the resistance value of the resistance element R.

It is submitted that all claims as now amended meet the requirements of 35 U. S. C. § 112.

Claims 1 and 6 have been rejected under 35 U. S. C. § 103(a) as being unpatentable over U.S. patent 6,654,560 (Nishizawa) in view of U.S. patent 4,698,900 (Esquivel).

Legal precedent is well developed with respect to 35 U.S.C. §103. The PTO is charged with the initial burden of identifying a source in the applied prior art for: (1) claim features; and (2) the realistic requisite motivation for combining applied references to arrive at the claimed invention with a reasonable expectation of successfully achieving a specific benefit. *Smith Industries Medical Systems v. Vital Signs*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999).

An Office Action rejection must provide a reason why one having ordinary skill in the art would have been motivated to modify the prior art or to combine prior art references to arrive at the claimed invention. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 227

USPQ 657 (Fed. Cir. 1985); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967).

What may or may not be known in general does not establish the requisite realistic motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995). The requisite motivation is not an abstract concept, but must stem from the applied prior art as a whole and have realistically impelled one having ordinary skill in the art, at the time the invention was made, to modify a reference in a specific manner to arrive at a specifically claimed invention with a reasonable expectation of achieving a specific benefit. *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989).

It thus should be recognized that even if the prior art *could* be modified so as to result in the combination defined by the claims the modification would not have been obvious unless the prior art suggested the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986). In the absence of such a prior art suggestion for modification of the references, the basis of the rejection is no more than inappropriate hindsight reconstruction using appellant's claims as a guide. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). The question is not what one having ordinary skill in the art could or could not do, but: *why* would one having ordinary skill in the art have been realistically impelled to deviate from the express teachings of the prior art to arrive at the claimed invention? *Gentry Gallery v. Berkline*, 134 F.3d 1473, 45 USPQ2d 1498 (Fed. Cir. 1998); *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

The Office Action states that Nishizawa discloses the elements recited in claims 1 and 6, except for a first electrode portion sandwiched between a second impurity region and a third impurity region and a second electrode portion sandwiched between a second impurity region and a fourth impurity region. Esquivel has been relied upon to conclude that it would have been obvious to modify the Nishizawa structure to include the missing elements, thereby reducing fringing capacitance at the lower corners of the electrodes. It is submitted that the Office Action has not established that the applied prior art meets the above described criteria for obviousness for the claims under rejection.

Nishizawa discloses a semiconductor device having a current detecting function. The semiconductor device shown in Fig. 1 has the isolation insulating film 82 between the detection part and the principal current part and the P well region 82, which is regarded by the Office Action as corresponding to the second impurity region, formed directly below the isolation insulating film 82.

In contrast, Esquivel discloses a non-volatile memory having dielectric filled trenches. The structure shown in Fig. 1 is a structure of an EPROM cell having buried  $n^+$  bit lines, floating gates 18 and control gates 22. The Office Action states that the floating gate 18 corresponds to the electrodes recited in claim 1 of the present invention.

As seen from the above explanation, Nishizawa discloses the power semiconductor device while Esquivel discloses the non-volatile memory. These references thus differ from each other in terms of the applied field of the semiconductor device. It is submitted that a person of ordinary skill in the art, upon consideration of the reference teachings, would have had no basis for combining these references. No motivation has been established in the Office Action to apply only the floating gate of the non-volatile memory, which operates appropriately only under

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the conditions that the memory has both of the floating gate 18 and the control gate 22, to the power semiconductor device that is applied to a field different from that of the memory device.

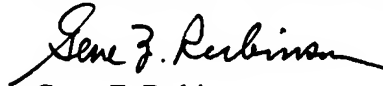
Withdrawal of the rejection of claims 1 and 6 is respectfully solicited.

Claims 2 through 4 and 7 have been indicated to be drawn to allowable subject matter, but for their presentation as claims dependent from a rejected base claim. Claims 5 and 9 through 12 were indicated to be allowable if amended to overcome the rejection under 35 U. S. C. § 112.

Accordingly, it is submitted that all objections and rejections of record have been overcome. Allowance of the application is respectfully solicited. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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